



NET METERING

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WHOLESALE VS RETAIL ELECTRIC RATES

In general, wholesale electricity rates reflect the per kWh cost of generating a customer's electricity. On residential electric bills it is typically called the generation service charge and can be provided as the electric company's standard service rate or a retail electric supplier's rate.

The retail rate is the total per kWh cost of the wholesale rate plus additional delivery services charges. Among other things, these include the distribution charge, transmission charge, combined public benefit charge, federally mandated congestion charge, and competitive transition assessment.

ISSUE

This report describes Connecticut's laws on traditional net metering ([CGS § 16-243h](#)) and virtual net metering ([CGS § 16-244u](#), as amended by PAs [16-46](#), [16-134](#), and [16-216](#)). It updates OLR Report [2013-R-0390](#).

SUMMARY

The state's law on traditional net metering allows those who own certain Class I renewable energy systems (e.g., residential solar photovoltaic systems) to receive credits on their electric bills for the power generated by their systems, in effect running their meter "backwards." The credits are generally provided at the owner's retail electric rate. If, in a billing period, the owner provides more power to the electric grid than he or she draws from it, the credits roll over and are applied to the next billing period. If any credits remain at the end of a year, the owner is credited for them at the wholesale rate.

Virtual net metering allows a system's owner to share any excess credits "virtually" with other owner-designated accounts, thus running their meters backwards too. For example, a town with solar panels on a school can use the credits generated during the summer (when the school's electric use is low) to help lower the electric bill at its firehouse. Connecticut law limits virtual net metering to municipal, state agency, and agricultural customers who meet certain requirements. It also (1) specifies which types of renewable energy systems can participate for each

customer type, (2) limits the types of accounts that can share a host facility's virtual net metering billing credits, (3) awards credits at less than the full retail rate, and (4) limits the total amount of virtual net metering credits awarded each year.

TRADITIONAL NET METERING

Eligibility and Connections

[CGS 16-243h](#) requires the electric distribution companies (EDCs, i.e., Eversource and United Illuminating) and retail electric suppliers to provide a credit for any electricity generated by a customer from a Class I renewable energy source or hydropower facility with a nameplate capacity rating of two megawatts or less. By law, Class I renewable energy sources include electricity derived from, among other things, solar power, wind power, and fuel cells.

At the customer's request, the EDC must install metering equipment that:

1. measures the electricity the customer consumes;
2. deducts from this measurement the amount of electricity the customer produces but does not consume; and
3. registers, for each billing period, the net amount of electricity either (a) consumed and produced by the customer, or (b) produced by the customer.

Credits

If, in a given monthly billing period, a customer supplies more electricity to the grid than it received from its EDC or supplier, the EDC or supplier must credit the customer for the excess by reducing the customer's next bill at a rate of one kWh for each kWh produced. Thus, a customer who produced an extra 10 kWh one month would be billed as if he or she used 10 fewer kWh the next month, with their netted usage applied to all of the charges on their bill (i.e., the full retail rate).

However, customers with systems that are 10 kilowatts or larger do not receive the full retail rate for their excess production (residential systems are typically less than 10 kilowatts in size). Instead, they must pay the systems benefit charge (a component of the combined public benefit charge) and competitive transition assessment on their bills based on their total consumption without netting any electricity they produced.

Regardless of the system's size, the EDC or supplier must carry over any unused credits from month to month and the unused credits accumulate until the end of the year. At the end of each year, the EDC or supplier must compensate the customer for any excess kWh generated at the avoided cost of wholesale power (i.e., the wholesale, rather than retail rate).

VIRTUAL NET METERING

Eligibility

By law, virtual net metering is open to (1) municipalities and state agencies with Class I or Class III energy systems and (2) agricultural customers with Class I energy systems ([CGS § 16-244u](#)). (Class III systems are cogeneration systems that provide combined heat and power.)

In each case, the system must be served by an EDC and cannot have a generating capacity over three megawatts. An agricultural customer's system must be on land that he or she owns or controls. All three customer types can own, lease, or enter into long-term contracts for the systems ([PA 16-46](#) allows agricultural customers who lease or contract for their systems to participate in virtual net metering). As with traditional net metering, the electric company must connect the system to the grid and provide metering equipment.

Beneficial Accounts

Virtual net metering allows a participating customer (the "host") to transfer the billing credits it generates when it produces excess power to customer-designated "beneficial accounts." The beneficial accounts must be customers of the same EDC as the customer host. Municipal or state hosts can designate up to five beneficial accounts that are related to the municipal or state agency and up to five additional non-state or municipal beneficial accounts that are critical facilities (e.g., hospitals and police stations) connected to a microgrid. Agricultural hosts can designate up to ten beneficial accounts, each of which must (1) use electricity for agriculture, (2) be a municipality, or (3) be a noncommercial critical facility (e.g., a police or fire station). The administering EDC must allocate the credits among the beneficial accounts in proportion to their consumption for the previous 12 billing periods.

Credits

Energy produced by the host is first used to reduce the host's electricity consumption. Surplus production is then assigned "virtually" to reduce the electric bills of the host's beneficial accounts. The EDC must assign a virtual net metering credit to the host's beneficial accounts for the month after the host generates the excess power. Unlike traditional net metering, the credit is less than the full retail

rate. Specifically, the credit is calculated as the generation service component (the wholesale cost of power) plus a decreasing portion of the beneficial accounts' transmission and distribution charges. The credit is for 80% of transmission and distribution charges during a facility's first year operating, 60% during its second year, and 40% for every year after.

If the host generates more power than it and its beneficial accounts use in a billing period, the excess "unassigned" credits accumulate and are applied to future electric bills within the calendar year. At the end of each year, the EDC must compensate the host for any unassigned credits at its standard service rate (the generation rate charged to customers who do not choose a retail electric supplier) plus the applicable portion of the transmission and distribution charges. In practice, pursuant to the Public Utilities Regulatory Authority's (PURA) decision in [Docket 13-08-14](#), the annual compensation for unassigned credits is provided as a credit to the host's electric bill and not an annual "cash out."

Credit Caps

The law required PURA to develop the administrative processes and specifications for the virtual net metering program, which it did through [Docket 13-08-14](#) and its subsequent re-opened proceedings. By law, these specifications include an annual \$10 million cap for credits provided to beneficial accounts and the year-end compensation provided to the customers participating in the program. The cap is apportioned between Eversource and UI based on their respective consumers' load, which in practice, amounts to roughly an \$8 million cap for Eversource and \$2 million cap for UI. Each category of eligible customers (municipal, state, and agricultural) is also capped so that it can receive no more than 40% of the total credits.

[PA 16-216](#) requires PURA to authorize an additional \$6 million of virtual net metering credits per year to municipal customer hosts that submitted their interconnection and virtual net metering applications to an EDC by April 13, 2016. The additional credits must also be apportioned to each EDC based on its customer load.

Deadlines

Under PURA's procedures, each approved project is assigned an annual virtual net metering cap allotment within its customer category based on information provided during the application process. Projects that are approved but not yet operational must generally become operational within one year after the approval or receive a

one-time, six-month extension. Failure to do so results in denial of the application so that the EDC can assign the project's assigned credit cap allotment to other applicants waiting for approval.

However, certain projects may have a longer timeframe to remain eligible if:

1. they require an air emissions or solid waste permit from the Department of Energy and Environmental Protection (DEEP);
2. their municipal, state, or agricultural host submitted a virtual net metering application to the EDC for the facility as of December 1, 2015; and
3. the EDC accepted their virtual net metering application.

Under [PA 16-134](#), projects meeting these criteria have 18 months to become operational from the date DEEP issues a final permit.

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